EPA Region 7 TMDL Review

TMDL ID	228	*Water Body ID*	MP1-10000, MP1-20000, MP2-20000, MP2-40000
Water Body Name	Middle Platte River (4 TMDLs)		
Pollutant	Fecal Coliform Bacteria		
Tributary	North and South Platte Rivers, Clear Creek, Prairie Creek, (Silver Creek), Wood River, Whitehorse Creek		
State	NE	*HUC*	10200101
Basin	Missouri River		
Submittal Date	04/16/2003		
Approved	5/6/03		

Submittal Letter

State submittal letter indicates final TMDL(s) for specific pollutant(s)/ water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act.

Letter dated April 14, 2003, was received by EPA April 16, 2003, formally submitting this TMDL for approval under Section 303(d).

Water Quality Standards Attainment

The water body's loading capacity for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.

Nebraska WQS for Primary Contact Recreation states "Bacteria of the Fecal coliform group shall not exceed a geometric mean of 200/100 ml, nor exceed 400/100 ml, in more than 10% of the samples. These criteria are based upon a minimum of 5 samples taken within a 30-day period. This does not preclude fecal coliform limitations based on effluent guidelines. These criteria apply during the recreational period of May 1 through September 30."

For these TMDLs the "not to exceed" value was chosen as the applied water quality

standard rather than the seasonal geometric mean. The reason provided for this decision is, 1) the TMDL/load duration process evaluates compliance based on individual points, and, 2) the reductions necessary to achieve compliance with the not to exceed criteria result in compliance with the seasonal geometric mean.

Allocations are based on the expected reduction of the bacteria loading under defined flow conditions, where flow conditions are defined by the presumed ability of point or non-point sources to be the dominant influence on stream water quality. Flow duration curves were developed from the applicable gage station sites and translated into a TMDL load curve by multiplying the flow curve by the water quality criteria (and a conversion factor). The water quality samples are converted to loads by multiplying the samples by the average daily flow and are then plotted on the TMDL load graph. The TMDL curve depicts the WQS and represents a continuum of desired loads over all flow conditions that will attain WQS for bacteria. TMDL values shown on the load duration curves are set at levels which will result in attainment of WQS.

Numeric Target(s)

Submittal describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.

The WQS are described, including all beneficial uses and numeric criteria. The TMDL target is based on the numeric water quality criteria for fecal coliform bacteria.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The TMDL target is based on the numeric water quality criteria for fecal coliform bacteria.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered.

Point sources are identified as contributing to the fecal coliform impairment within at least one of the main stem segments; municipal stormwater disharges, unpermitted sanitary or industrial discharges, failing septic tanks and lagoons and non-discharging facilities are also acknowledged. Maps showing NPDES permitted facilities, animal feeding operations and non-discharging facilities are provided.

Nonpoint sources include failing on-site wastewater systems, run-off from livestock pastures, improper or over-application of biosolids (wastewater treatment facility sludge), septage or manure and urban stormwater not regulated by an NPDES permits. Natural

sources are also considered from wildlife contributions.

Allocation

Submittal identifies appropriate wasteload allocations for point, and load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

Allocations are based on the expected reduction of the bacteria loading under defined flow conditions, where flow conditions are defined by the presumed ability of point or non-point sources to be the dominant influence on stream water quality. The demarcation on the load curves between point source and nonpoint sources is the greater of the 7q10 low flow or the stream flow volume necessary to dilute the point source effluents to compliance with the water quality criteria.

WLA Comment

Waste load allocations (WLAs) are provided for the NPDES permitted facilities (including discharges from regulated stormwater outfall) as a monthly geometric mean of 200/100 ml and a daily maximum permit limit of 400/100 ml. WLAs are provided for dry weather discharges as a seasonal geometric mean of 200/100 ml and with <10% of the samples >400/100ml. Non-discharging facilities are provided a WLA of zero.

LA Comment

Load allocations are defined as that demarcation of the individual load duration curves where the flow is greater than 680 cfs, or 7Q10 (MP1-10000), 727 cfs (MP1-20000), 235 cfs (MP2-20000), and 82 cfs, or 7Q10 (MP2-40000).

Margin of Safety

Submittal describes explicit and/or implicit margin of safety for each pollutant. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The TMDLs identify implicit margins of safety; no accounting for decay or die-off of fecal coliform and the assumption that wastewater treatment plants are discharging the permitted average monthly fecal coliform density allowed, when in fact, many of the plants provide disinfection that is sufficient to achieve 100% reduction in fecal coliform in the discharge. Additionally, the reductions necessary to achieve compliance with the not to exceed criteria result in greater potential for compliance with the seasonal geometric mean.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

Seasonal variation is considered in the recreational season and is reflected in the TMDL load duration curve, where flows generally depend on the season. Critical conditions are accounted for in the TMDL load duration curve.

Public Participation

Submital describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

The availability of these draft TMDLs were published in 6 different newspapers across the basin; the draft TMDLs were also available to the public for review on NDEQ's website from February 12 through March 14, 2003. Comment letters were received, considered, and responded to appropriately.

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

Future monitoring will be consistent with Nebraska's rotating basin monitoring scheme; the next targeted monitoring phase for the basin is 2006. An effort is to be made in expanding the monitoring. Compliance monitoring and self-monitoring information from NPDES permittees will be used in assessing the success of these TMDLs as well. Microbial source tracking may be used in the future as this science progresses to be more user friendly.

Reasonable assurance

Reasonable assurance only applies when reduction in nonpoint source loading is required to meet the prescribed waste load allocations.

Although reasonable assurances are not required for this TMDL, Nebraska has identified several Federal, State, local, and non-government organizations that may be included in the implementation process, as well as enforcement and compliance measures as needed for NPDES permits.